

number of pixels in the original image. See col. 2, lines 49-53. An image is decomposed to a sequence of detail images and a residual image. The pixels of the detail images and the residual image are modified and a reconstruction algorithm is applied to the detail images and the residual image so that a processed image after reconstruction has a resolution that is equal or smaller than the resolution of a display device. See Buytaert Claim 1.

Claim 1

The Examiner asserts that Buytaert discloses an image display method for displaying two or more images of an identical object to be compared, citing Buytaert col. 4, lines 59-67, as recited in claim 1.

The respective column and lines cited by the Examiner states that an image directory is used to compose and display images and that images that are to be compared by a radiologist can be displayed side by side. However, there is no indication that the items to be displayed are images of an identical object. In particular, the image directory permits a radiologist to quickly view various images prior to selecting a desired image. There is no indication that two or more images of an *identical object* to be compared are displayed side by side.

The Examiner also asserts that Buytaert col. 6, lines 33-58 discloses that the two or more identical images are displayed together in a row or column with positions of a structural feature area of the identical object in the two or more images aligned horizontally or vertically, as further recited in claim 1.

The respective column and lines cited by the Examiner (col. 6, lines 33-58) describe the decomposition of pixels for display. An original image 15 is filtered by a low pass filter 16 and is subsequently subsampled by a factor of two. A detailed image b_0 is obtained and columns and

rows of pixels are inserted into the image b_0 . A very low resolution image which is an approximation of the original image is subsequently produced.

However, there is no indication that two or more identical images are displayed together in a row or column. In particular, there appears to be only one original image 15 which is decomposed for display. Upon viewing Fig. 4, as described in col. 6, lines 33-58, there is disclosed several low pass filters 16 and interpolators 17, which are used in the decomposition of an image 15. Detail images 19 and a residual image 20, which are produced, have varying resolutions of original image 15.

Assuming the Examiner is referring to detail images 19 and residual image 20 for teaching the two or more identical images displayed together, detail images 19 and residual images 20 are not the images displayed side by side for comparison, as previously cited by the Examiner.

Furthermore, there is no indication that identical images are displayed together in a row or column with positions of a structural feature area of the identical object in the two or more images aligned horizontally or vertically. Again, assuming the Examiner is referring to detail images 19 and residual images 20 for teaching the two or more images displayed in a row or column, at most the entire detail images and residual image are displayed in a column, and there is no indication that a structural feature area of the identical object in the two or more images are aligned horizontally or vertically.

For the above reasons, claim 1 and its dependent claims should be deemed patentable. Since claims 8 and 17 recite similar elements, claims 8 and 17 and their dependent claims should be deemed patentable for the same reasons.

Claim 3

The Examiner asserts that Buytaert discloses that each of the two or more images of the identical object to be compared is an original image, citing col. 6, lines 28-37. As previously indicated, there is at most one original image 15 disclosed. Detail images 19 and residual image 20 are derivations of image 15. Therefore, claim 3 should be deemed patentable. Since claim 10 recites similar elements, it should be deemed patentable for the same reasons.

Claim 4

The Examiner asserts that Buytaert discloses that the two or more original images are taken at different points in time, citing col. 9, lines 62-67. The Examiner's assertion is unclear. In particular, Buytaert does not include a col. 9, lines 62-67. Applicant respectfully requests clarification on this matter.

Regardless, Buytaert does not disclose that two or more original images are taken at different points in time, as further evidenced by the Examiner's rejection of claim 16. As previously indicated, Buytaert discloses one original image 15. Since claims 6, 11, and 13 recite similar elements, they should be deemed patentable for the same reasons.

Claim 5

The Examiner states that claim 5 is rejected for the same reasons as claim 1. However, claim 5 recites a subtraction image which is derived by matching positions of two images selected out of the plurality of original images and taking a differential between the two selected image, which is not recited in claim 1. Therefore, the Examiner's rejection of claim 5 is deficient.

Regardless, Buytaert, at most, discloses obtaining a detail image by interpolating a low pass image while inserting an extra column and row every other column and row and pixelwise subtracting the interpolated image from the original image. A detail image obtained by subtracting an interpolated image from an original image is not a subtraction image derived by matching positions of two images selected out of the plurality of original images and taking a differential between the two selected image. In particular, the subtraction is not derived from two original images. Furthermore, there is no indication that the subtraction of Buytaert is performed by matching positions of the two images. Buytaert merely discloses subtracting an interpolated image from an original image. An interpolated image is not an original image as would be apparent to one of skill in the art.

Therefore, claim 5 should be deemed patentable. Since claim 12 recites similar elements, claim 13 should be deemed patentable for the same reasons.

Claim 15

Claim 15 recites that the two or more images physically occupy different areas of a display when the two images are simultaneously displayed. The Examiner asserts that Buytaert col. 4, lines 55-58 discloses the elements of claim 15.

The respective column and lines cited by the Examiner describes that a composed image is an image that is composed of a number of juxtaposed individual radiographic images to be displayed simultaneously such as an image directory. However, there is no indication that the images are of an identical object to be compared. Therefore, claim 15 should be deemed patentable. Since claim 23 describes similar elements, it should be deemed patentable for the same reasons.

Claim 19

The Examiner asserts that Buytaert col. 4, lines 63-67 discloses an ID number unique to an object, as recited in claim 19. The respective column and lines cited by the Examiner describes that the images are provided with at least one identification item which is stored together with the detail images and residual image resulting from decomposition. There is no indication that the identification information is unique to an object.

The Examiner also asserts that Buytaert col. 5, lines 51-54 discloses a code representing an imaged site of the object, as further recited in claim 19. The respective column and lines cited by the Examiner describes that a cassette is provided with an electrically erasable programmable read only memory (EEPROM). In an identification station various kinds of data, for example, patient identification data and data relating to the exposure are written into the EEPROM. However, there is no indication that the data written into the EEPROM is a code representing *an imaged site of the object*.

The Examiner cites col. 4, lines 15-17 for teaching that the header information comprises an orientation information of the object upon imaging, as further recited in claim 19. Column 4, lines 15-17 of Buytaert describes processing which may affect image orientation. There is no indication of orientation information of an object upon imaging or that orientation information is in the header information.

The Examiner cites col. 5, lines 51-54 for teaching header information comprising a date of imaging as recited in claim 19. The respective column and lines cited by the Examiner describes that patient data such as name and date of birth and data relating to the exposure are

written on the EEPROM. There is no indication that the information is in the header information of images and that a date of imaging is included.

For the above reasons, claim 19 should be deemed patentable.

Claim 20

The Examiner asserts that the arguments applied to claim 19 are also applicable to claim 20. However, claim 20 recites that the two or more images comprise the same ID number, the same code, and a different date of imaging, which is not recited in claim 20. Regardless, there is no indication in Buytaert that two or more images comprise the same ID number, the same code and a different date of imaging, as recited in claim 20. Therefore, claim 20 should be deemed patentable.

Claim 21

The Examiner asserts that the arguments applied to claim 1 are also applicable to claim 21. However, claim 21 further recites that the subtraction image is obtained after a position matching operation of the position matching means which is not disclosed in claim 1. Regardless, there is no indication of a position matching operation in Buytaert, therefore, claim 21 should be deemed patentable.

***Rejection of claims 16 and 24 under § 103(a) as being
unpatentable over Buytaert in view of Madore***

Claims 16 and 24

Madore pertains to magnetic resonance imaging. In particular, acquiring magnetic resonance images for monitoring the behavior of an organ. See Madore Abstract.

The Examiner states that Buytaert is silent about specific details regarding an image display method wherein a first of the two images represents the object at a first time and a second of the two objects represents the object at a second time, and cites Madore to cure the deficiency.

However, the Examiner's reasoning is unclear since the Examiner then refers to a reference Branson, which is not cited in the Form PTO-892. Applicant respectfully requests clarification on this matter.

Assuming the Examiner meant to cite Madore col. 14, lines 34-38, the respective column and lines of Madore describe acquiring magnetic resonance images of a dynamic object at multiple time points. Madore does not pertain to the *display* of the images acquired at a first and a second time where the first time is different from the second time. Although images at multiple time points are described in Madore, there is no indication that the images should be displayed as recited in claims 16 and 24. The Examiner's reasoning is clearly based on hindsight. Therefore, claims 16 and 24 should be deemed patentable.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

RESPONSE UNDER 37 C.F.R. §1.111
U.S. APPLN. NO.: 09/728,091

ATTORNEY DOCKET NO. Q61255

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

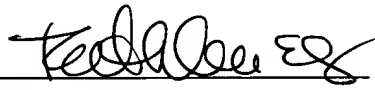
Respectfully submitted,

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

23373

CUSTOMER NUMBER


Ruthleen E. Uy
Registration No. 51,361

Date: May 17, 2004